



LAWRENCE BERKELEY NATIONAL LABORATORY
2005 AUTOMATED CRITICAL PEAK PRICING

LBNL Automated Critical Peak Pricing 2005
Site Questionnaire

LBNL Interviewer	
Date Interviewed	

1. Contact Information

Name	
Company	
E-mail	
Phone	
Fax	
Contact's address	

2. Site Information

Site name		
Primary services or products of the site		
Number of buildings	Involved in Auto-CPP:	Site total:
Location (address)		
Year constructed		
Floor space	Total (sqft)	
	Conditioned	
	In Auto-CPP	
# of floors		
Occupancy schedule	Weekday	
	Non-Weekday	
Utility company	PG&E	
Facility management type	<input type="checkbox"/> Company-owned <input type="checkbox"/> Outsourced	

3. Electric Demand

Peak load [kW]		
Approximate breakdown of summer peak period [in %]	Lighting	
	HVAC	
	Appliances, misc.	
	Process line	



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4. HVAC Systems

Distribution system type	<input type="checkbox"/> Constant volume <input type="checkbox"/> Hot water reheat <input type="checkbox"/> Multi-zone <input type="checkbox"/> Variable air volume <input type="checkbox"/> Dual duct <input type="checkbox"/> Dual fan dual duct
Fan type	<input type="checkbox"/> Forward curved <input type="checkbox"/> Airfoil/Backward inclined <input type="checkbox"/> Radial blade <input type="checkbox"/> Axial
Fan control type	<input type="checkbox"/> Inlet guide vanes <input type="checkbox"/> Discharge damper <input type="checkbox"/> Variable pitch <input type="checkbox"/> Variable speed drive <input type="checkbox"/> No control
Supply air temperature	Cold deck (°F): Hot deck (°F):
Temperature control type	<input type="checkbox"/> Manual <input type="checkbox"/> Always on <input type="checkbox"/> Time clock <input type="checkbox"/> EMCS <input type="checkbox"/> Programmable thermostat
Zone temp setpoint (°F)	Cooling: Heating:
Optimal start/stop	<input type="checkbox"/> Yes <input type="checkbox"/> No
Supply temp control	<input type="checkbox"/> Constant <input type="checkbox"/> Reset OAT <input type="checkbox"/> Reset Demand
Supply fans	Quantity: Airflow rate (CFM):
Return fans	Quantity: Airflow rate (CFM):
Return air path	<input type="checkbox"/> Direct <input type="checkbox"/> Ducted <input type="checkbox"/> Plenum
% of outside air	
Cooling equipment type	<input type="checkbox"/> Direct Expansion <input type="checkbox"/> Chilled water <input type="checkbox"/> Evaporative cooler <input type="checkbox"/> Purchased chilled water <input type="checkbox"/> Chilled water supplied by other building
Control system type	<input type="checkbox"/> Conventional Pneumatic <input type="checkbox"/> Pneumatic with EMCS <input type="checkbox"/> Direct Digital Control (DDC)

5. Chillers, Circulation Pumps

Chiller type	<input type="checkbox"/> Centrifugal <input type="checkbox"/> Reciprocating <input type="checkbox"/> Screw <input type="checkbox"/> Scroll <input type="checkbox"/> Absorption, steam <input type="checkbox"/> Absorption, gas-fired
Fuel type	<input type="checkbox"/> Electricity <input type="checkbox"/> Gas <input type="checkbox"/> Steam
Heat rejection type	<input type="checkbox"/> Water cooled <input type="checkbox"/> Air cooled
Number of units	Main: Backup:
Capacity (tons for each)	
Approximate kW	
VSD compressor control	<input type="checkbox"/> Yes <input type="checkbox"/> No



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Chilled water setpoint (°F)	
Chilled water reset	<input type="checkbox"/> Yes <input type="checkbox"/> No Reset temperature (°F):
Compressor	Volts: Amps: Phase: <input type="checkbox"/> 1-phase <input type="checkbox"/> 3-phase
Water-side economizer	<input type="checkbox"/> In use <input type="checkbox"/> Not in use
Cooling lockout	Lockout outside air temp (°F): Month cooling on: Month cooling off:
Control system type	<input type="checkbox"/> Conventional Pneumatic <input type="checkbox"/> Pneumatic with EMCS <input type="checkbox"/> Direct Digital Control (DDC)
Number of circulation pumps	Chilled water (main): (backup): Secondary chilled water (main): (backup):
Pump power (hp)	
Pump control	<input type="checkbox"/> Constant <input type="checkbox"/> 2-speed <input type="checkbox"/> Variable

6. Cooling Towers

Condenser type	<input type="checkbox"/> Air-cooled condenser <input type="checkbox"/> Evaporative condenser <input type="checkbox"/> Air-cooled with pre-cooler
Temperature control	<input type="checkbox"/> Fixed <input type="checkbox"/> Reset <input type="checkbox"/> Setpoint
Condenser water setpoint	(°F):
Cooling tower fan type	<input type="checkbox"/> Centrifugal <input type="checkbox"/> Axial
Number of fans	
Fan control	<input type="checkbox"/> Constant <input type="checkbox"/> 2-speed <input type="checkbox"/> Variable
Condenser water pump	Quantity: Horsepower:
Pump control	<input type="checkbox"/> Constant <input type="checkbox"/> 2-speed <input type="checkbox"/> Variable
Control system type	<input type="checkbox"/> Conventional Pneumatic <input type="checkbox"/> Pneumatic with EMCS <input type="checkbox"/> Direct Digital Control (DDC)

7. Boilers, Circulation Pumps

Boiler type	<input type="checkbox"/> Water <input type="checkbox"/> Steam <input type="checkbox"/> Other
Hot water temperature (°F):	
Fuel type	<input type="checkbox"/> Electricity <input type="checkbox"/> Gas <input type="checkbox"/> Steam
Number of units	Main: Backup:
Capacity (kBtu/hr for each)	
Hot water temp reset	<input type="checkbox"/> Yes <input type="checkbox"/> No



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Space heat lockout	Lockout outside air temp (°F): 66 Month heating on: _____ Month heating off: _____
Hot water pump	Quantity: _____ Horsepower: _____
Pump motor type	<input type="checkbox"/> Constant <input type="checkbox"/> 2-speed <input type="checkbox"/> Variable
Control system type	<input type="checkbox"/> Conventional Pneumatic <input type="checkbox"/> Pneumatic with EMCS <input type="checkbox"/> Direct Digital Control (DDC)

8. Domestic Hot Water

Domestic water heater fuel	<input type="checkbox"/> Electricity <input type="checkbox"/> Gas <input type="checkbox"/> Steam
Water heater	Quantity: _____ Input (kW): _____
Domestic hot water pump	Quantity: _____ Horsepower: _____
Pump control type	<input type="checkbox"/> Continuous <input type="checkbox"/> Temperature <input type="checkbox"/> Timer <input type="checkbox"/> Demand
Control system type	<input type="checkbox"/> Conventional Pneumatic <input type="checkbox"/> Pneumatic with EMCS <input type="checkbox"/> Direct Digital Control (DDC)

9. Lighting System

Control type (Office area) <i>Check all that apply</i>	<input type="checkbox"/> None, continuous <input type="checkbox"/> Manual on/off switch <input type="checkbox"/> Time clock <input type="checkbox"/> Bi-level switch <input type="checkbox"/> Photocell <input type="checkbox"/> Motion sensor <input type="checkbox"/> Dimmable ballast <input type="checkbox"/> Daylighting controls <input type="checkbox"/> Centralized control <input type="checkbox"/> Integrated into EMCS
Control type (Common space) <i>Check all that apply</i>	<input type="checkbox"/> None, continuous <input type="checkbox"/> Manual on/off switch <input type="checkbox"/> Time clock <input type="checkbox"/> Bi-level switch <input type="checkbox"/> Photocell <input type="checkbox"/> Motion sensor <input type="checkbox"/> Dimmable ballast <input type="checkbox"/> Daylighting controls <input type="checkbox"/> Centralized control <input type="checkbox"/> Integrated into EMCS

10. Miscellaneous Loads

Equipment which can be shed during a CPP event	<input type="checkbox"/> Refrigerator <input type="checkbox"/> Fountain pumps <input type="checkbox"/> Anti-sweat heater <input type="checkbox"/> Process equipment <input type="checkbox"/> Other: _____
Control system type	<input type="checkbox"/> Conventional Pneumatic <input type="checkbox"/> Pneumatic with EMCS <input type="checkbox"/> Direct Digital Control (DDC)

11. Energy Management and Control System

Manufacturer	_____
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Control system is viewable at,	<input type="checkbox"/> Web-browser <input type="checkbox"/> On-site	<input type="checkbox"/> Off-site <input type="checkbox"/> Never
Data trending capability	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Currently trending data?	<input type="checkbox"/> Yes <input type="checkbox"/> No Data point collected:	
Data trend interval (minutes)		

12. Energy Information System

PG&E InterAct	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other EIS installed	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	If yes, vendor:	
Data points collected		
Trend interval (minutes)		
Is the data accessible from third party (LBNL)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

13. Connectivity (Connecting the EMCS to the Internet)

A. Does the site have Internet connectivity for tenants (i.e. can they surf the Web?).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
B. Is EMCS data viewable through a Web browser on site?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
C. Is EMCS data viewable through a Web browser off site?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
D. If C above is Yes, is a Web programmer available to install a Web services/XML client (template provided)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
E. If (A = Yes) and (C or D = No), can you provide a public IP address? A pre-configured IP relay will be shipped to your site.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

14. Demand Response Control Strategy

Shed control strategies planned for summer 2005	<input type="checkbox"/> Zone setpoint increase <input type="checkbox"/> Cooling system control <input type="checkbox"/> Misc. equipments	<input type="checkbox"/> Fan control <input type="checkbox"/> Lighting shed
Strategy detail		
Have you implemented the strategies before?	<input type="checkbox"/> Yes	<input type="checkbox"/> No



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How much kW do you think you can shed? [kW]	
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